

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files (R&D Branch)

DATE: 11 December 1957

FROM :

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SUBJECT: Comments on [redacted] Progress Report No. 1 "On Measurements of Transmitter Spurious Radiation" November 1957

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1. The following notes and comments on the referenced report are forwarded for whatever value they may have in considerations involving this project:

- a) Some of the transmitters mentioned will not tune to 50 ohms.
- b) Peak measurement of key click type interference will produce extremely high values which will not be an indication of the actual nuisance value of the interference.
- c) Conducted interference measurement conforms very closely to our tests. We have the line impedance stabilization networks ordered to conform to the Mil Specification. Previously we have used the line adaptors provided with the Stoddart equipment.
- d) Case radiation has been skipped over very lightly in the report. Most installations do not have a screen room that will accommodate a 30 foot dipole. Is it proposed to make low frequency readings with a loop and then change to a dipole for the harmonics? The readings would probably be meaningless. In order to duplicate the readings at a different installation, the distance of the pickup from the case would also be necessary information. Shouldn't case radiation at lower frequencies also be checked with a whip antenna to check both polarizations?
- e) Key click radiation should be taken at short distances and absolute readings should be made in order to check against maximum allowable radiation specifications.
- f) On the antenna terminal interference radiation set up, the source impedance for the tuned rf voltmeter will vary considerably from the fundamental frequency to the higher harmonics. Would not this mismatch give readings which would not be proportional to the actual fundamental to harmonic ratio. Most meters of this type require from 50 to 100 ohms resistive source impedance

DOC 17	REV DATE 18 MAR 1960	BY 064540
ORIG COMP 033	CP 56	TYPE 02
ORIG CLASS C	PAGES 2	REV CLASS C
JUST 22	NEXT REV 2010	AUTH: NR 10-2

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for proper operation. Another source of error which would be self correcting with the substitution method would be in the fact that the transmitter output could be tuned to compensate for the capacitive voltage divider while such would not be the case for the signal generator. The resulting mismatch would require a larger input from the signal generator than from the transmitter.



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